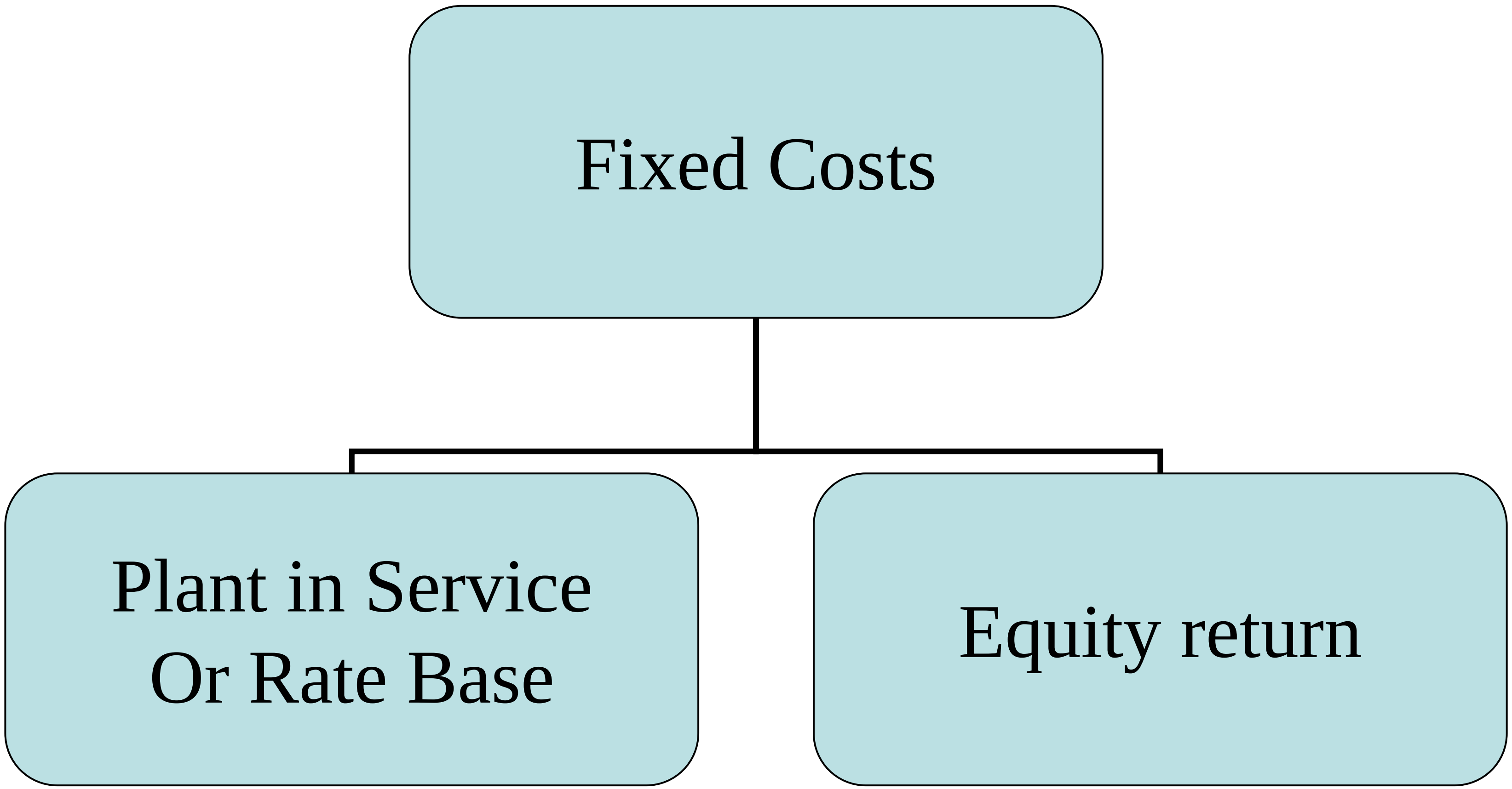
National
Association of
Regulatory
Utility
Commissioners

Tariff Construction Methodology: Fixed Cost Elements Overview

Robert Eckenrod 22 July 2008

Fixed Cost Elements



Rate base

- Rate base is the utility's investment in plant "used and useful" in the public service minus accrued depreciation
- Establishment of the value of the utility's property key component in rate making

Rate Base
Elements versus Measures of Value

- Elements of value: What assets of a utility comprise the rate base?
  - Used and useful
    - Generally excludes
      - Duplicate and unnecessary property
      - Obsolete and inadequate property
      - Abandoned property
      - Incomplete and contemplated construction
      - Property used for non-utility purposes
      - Property donations
      - Deposits and money advanced by customers
  - Working capital
  - Construction work in progress

Rate Base
Elements versus Measures of Value

- Measures of value: how do you measure the value of rate base assets?
  - Actual, or original, cost
    - The amount actually paid for installing the original plant and equipment, plus additions, when first devoted to public service
    - Most widely used method
  - Current or reproduction cost
    - The costs of plant and equipment, plus additions, estimated at price levels prevailing at date of valuation
  - Fair value
    - Focuses on what assets are "worth" at time of the rate case, as determined by "enlightened judgment."

USAID FROM THE AMERICAN PEOPLE

NARUC National Association of Regulatory Utility Commissioners

"Used and useful": Is it utility property?

- Only utility property that is "used and useful" in public service shall be included in rate base.
- Was the investment in the property "prudent?"
- Could it have been done less expensively
- Is it "used and useful" now or it the future?
  - If in the future, how far into the future? Is it Construction Work in Progress or an Allowance of Funds Used During Construction?
    - Typically, construction work in progress will not be included in present rate base, unless project is expected to be "used and useful" within 6 months after base rate case is concluded. Otherwise, shareholder dollars are "at risk"

Rate Base Valuation
Depreciation

- Rate Base = Original Cost of Plant minus Depreciation to arrive at fair value
  - Whatever value is used to determine the rate base, depreciation must be deducted – this is known as accrued depreciation
  - Straight line method most commonly used

Rate Base Valuation
Other Elements of Value

- Working capital: the funds representing necessary investment in materials and supplies, and the cash required to meet current obligations and maintain minimum bank balances
- Property held for future use: amount of investment in property and plant that is not being used currently to provide service. For example, land purchased for potential future use
  - May be included if expected in-service date falls within a certain time frame
- Customer contributions: Customer added value is deducted from rate base
  - Customer deposits
  - Customer advances for construction or contributions in aid of construction

Equity Return

- The overall weighted cost of capital
  - Defined as the annual percentage that a utility must receive to maintain its credit, pay a return to the owners of the enterprise and to ensure attraction of new capital
  - Applied to rate base in order to provide a fair rate of return to investors
  - Also, allows the utility to achieve earnings comparable to those of other companies having corresponding risks.
  - Regulation may use rate of return as an incentive by awarding higher returns to utility with greater efficiency.

Equity Return, continued

- Capital structure
  - Initial step in estimating overall costs of capital involves the selection of the appropriate capital structure to be utilized
    - Actual vs. hypothetical
- Cost of capital
  - Second step, determine the costs of capital
    - Cost of debt v. cost of equity
    - Most controversy here centers around the cost of common equity: how much must a utility earn to attract investors?
      - Several principle methods
        - » Discounted cash flow
        - » Capital asset pricing model
        - » Comparable earnings